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Research Support Services for Scholars: History Project Final Report

Table of Contents

Introduction	3
Research Practices	7
Gathering and Using Primary Sources	7
Discovery.....	13
Secondary Sources and Research Support from Libraries and Librarians	18
Organizing Sources.....	22
Digital Research Methods, Collaboration, and Communication.....	28
Audience, Outputs, and Credit	30
Graduate Students	36
Conclusions and Recommendations.....	40
Appendix A: Interview Participants	48
Appendix B: Interview Protocol for Historians	50
Appendix C: Evidence.....	53

Introduction

New technologies have been changing academic research and teaching for years. In many academic fields, changing research methods are re-shaping the very nature of the types of research questions that scholars are able to pursue and the rigor with which they can address them. And, even when underlying research methods remain constant, day-to-day research practices are digitally enabled, a transformation that has had in some cases substantial implications for the substance of scholarly research. Research support providers such as libraries, archives, humanities centers, scholarly societies, and publishers – not to mention the academic departments that are often at the front line of educating the next generation of scholars – find themselves faced with the need to innovate in support of these opportunities.

The innovation required of research support providers is the subject of significant debate. While the print to electronic transition has made clear some of the requirements for publishing, acquiring, and preserving information resources, some of the more fundamental questions regarding services have been more complicated to address. At a basic level, research support providers are eager to develop a deeper understanding of the changing needs of their users and customers.

With the need to understand changing research methods and practices of scholars, Ithaka S+R has launched a program of discipline-specific studies that we are calling Research Support Services for Scholars. We have begun this series in this project with history, for which the National Endowment for the Humanities has generously provided start-up funding to develop and test a method that is already being extended to additional fields. This report shares our findings and recommendations with respect to the field of history. For this project, we have focused on the practices and needs of history scholarship exclusively as conducted in an academic context.

In History, the Ithaka S+R project team found a discipline in transition. An expansion in the nature of the field over the past 50 years has introduced new sources, both in terms of subject coverage and international scope. However, only a comparatively small share of the primary sources required by historians has been made available digitally, tempering the opportunity for new methods to take hold.

Even if the impact of computational analysis and other types of new research methods remains limited to a subset of historians, new research practices and communications mechanisms are being adopted widely, bringing with them both opportunities and challenges. The introduction of digital cameras to archival research is altering interactions with materials and dislocating the process of analysis, with potential impacts not only for support service providers but for the nature of history scholarship itself. There are as a result a number of key opportunities to increase the efficiency and comprehensiveness of archival research practices through improved researcher training and support services. In sum, research practices have evolved in subtle but significant ways, requiring parallel adjustments for those supporting history research.

Ten years ago, the American Historical Association extensively explored the state of the field of history as it was then practiced in the United States, to identify changes that might be suggested for educating PhD students. The project, ultimately published as *The Education of Historians for the Twenty-first*

Century,¹ recommended a variety of opportunities to strengthen the structure and culture of history departments and the education they offer to their graduate students. In the ensuing decade, new technologies have allowed historians to introduce new research methods and practices, raising questions not only about the education of the next generation of scholars but even more broadly about how best to support new forms and means of scholarship. The findings and recommendations from the present project connect directly to efforts to best educate PhD students for the field of history.

The findings and recommendations of this project will find interest among the broad community that supports academic history research. We hope they will suggest opportunities at both a field and a campus level to ensure that academic historians and the field of history is well served in its digital turn.

Methodology

In the first phase of the project, Ithaka S+R interviewed professionals who support the research work of historians. Before interviewing faculty members directly we established an understanding of the breadth of support available to history faculty members on campus, as well as the environment and institutions that support their research from concept to publication. The goal for this set of interviews was to explore the different types of service models currently engaged in supporting history research on campus, as well as the challenges that research support professionals are facing in today's rapidly evolving research environment.

Ithaka S+R interviewed fourteen research support professionals altogether, and one member of our research team attended a round table discussion about the digital humanities with research support professionals from institutions in New York City. The interviews included 3 library professionals, 4 professionals working in centers associated with libraries, 2 professionals associated with scholarly societies, 1 publisher, 2 professionals associated with independent campus digital centers, and 2 professionals associated with independent higher education organizations. In our selection of interviewees, we placed an emphasis on campuses with support for digital humanities work.

The research team conducted interviews via phone conversations; each interview was about 60 minutes long. Interviews were recorded for transcription and analysis purposes. Interview questions focused on four fundamental areas: current services provided, planning for future services, perceptions of evolving scholarly needs, and challenges. While the majority of the interview subjects work with a variety of humanities and social science scholars, there was an attempt to focus conversations and examples on history in particular. However, because libraries and centers do not typically focus their support to a single discipline, in many cases it was necessary and contextually relevant to discuss the broader context of humanities researchers. An interim memo of findings from this stage was reviewed with our advisory board and made available publicly.

For the second phase of this study, Ithaka S+R interviewed thirty-nine practicing academic historians and graduate students about their work practices. Of the thirty-nine, seven were PhD students at various

¹ Thomas Bender, Philip F. Katz, Colin A. Palmer, and the Committee on Graduate Education of the American Historical Association, *The Education of Historians for the Twenty-first Century* (University of Illinois Press, 2003).

stages in the dissertation process.² The researchers and the advisory board worked together to identify a diverse group of historians, drawn from varying positions in their career, sub-field, geographic locations, and type of institutions. As the study focuses on research methods, faculty members were selected from institutions that to some degree emphasize faculty members' research. Though we believe that the sampling approach has reduced obvious bias considerably, this sample of historians is not meant to be perfectly representative of the history community. (Please see Appendix A for a complete list of interview subjects and Appendix D for further demographic information about the participants.) As the study is concerned with both the typical research experience for history, as well as the digital scholarship that is now taking place in the field, the historians sampled will fall across this spectrum of methodologies and approaches.

The interviews were conducted using a variety of methods. Eleven interviews were conducted in-person, most of them at the American Historical Association annual conference in 2012, and fourteen of the interviews were conducted over the phone. Thirteen interviews were conducted in the researcher's office or primary work space. These onsite interviews allowed us to observe first-hand each subject's work space and the artifacts of their research, which included research notes, resources, organizational techniques, writing approaches, and tools used in the research process. Researchers were sometimes able to demonstrate their work practices, often on the computer or via photographs they shared, during conversations.

The interviews were guided by an interview protocol (see Appendix B), and they were semi-structured and exploratory in nature. The primary topics of interest included the research process, use of archives and libraries, research notes management, writing and publishing, general challenges throughout the process, and the use of digital methods in the scholarly process.

ACKNOWLEDGMENTS

A number of individuals in addition to the named authors contributed to this project, and we express our gratitude. We thank first of all the members of this project's advisory board, who helped us formulate the scope and coverage of the project, assisted us in identifying interview candidates, and review the analysis and recommendations that appear in this final report. Our advisory project board members are:

- Francis X. Blouin, Director, Bentley Historical Library Prof. School of Information and Dept. of History University of Michigan
- Daniel Cohen, Associate Professor in the Department of History and Art History at George Mason University, and the Director of the Roy Rosenzweig Center for History and New Media
- James Grossman, American Historical Association, Executive Director
- Miriam Posner, UCLA, Digital Humanities Program Coordinator

² In Phase I of the study, it was recognized that in discussing the future of research support services for historians, it was critically important to include PhD students in the interviews.

Jennifer Rutner, Ithaka S+R, *Research Support Services for Scholars: History Project Interim Report*.
<http://www.researchsupportservices.net/?p=64>

- Stefan Tanaka, University of California at San Diego, Professor in the Department of Communication and Director of the Center for the Humanities

We interviewed both historians and research support service professionals alike, each of whom gave generously of his or her time to ensure that as balanced as possible a perspective could be presented in our analysis. They are listed by name in Appendix A, and to each of them we offer our deepest thanks.

The development of this project, its analysis, and the final report were reviewed formally and informally by every member of the Ithaka S+R team. We offer special thanks to Ross Housewright, Matthew Long, Deanna Marcum, and Kate Wulfson, for their comments on various drafts.

Finally, this project could not have been conducted without the start-up funding from the National Endowment for the Humanities through its Office of Digital Humanities. We thank Brett Bobley, Jennifer Serventi, and Perry Collins, along with anonymous reviewers, for their advice and recommendations in helping to see this project come into being.

While the work of this project was aided by the enthusiasm and support of many individuals, we take sole responsibility for the contents of this report.

Research Practices

Historians and graduate students use archives as a principal source for primary source materials and libraries for secondary source materials. Historians utilize a mixture of traditional and emerging scholarly practices. They organize and manage research notes to gain intellectual control over their research topics. In each of these areas of their research work, historians have needs for different types of support than they typically receive.

Gathering and Using Primary Sources

"You never know where you'll get your records from."

"It's about the relationship you develop over time with the archivists and librarians at the archive. After you leave, you want to have support at the archive; good relationships facilitate this. The rapport at the archives is very, very important."

"Traveling to international archives, making connections to local archivists and librarians is critically important."

"Having a meeting with the archivist and librarian is really fantastic, because they help you understand what is in the archive, and what you might be able to use."

"The publisher then digitized the entire collection. Immediately, I went from traveling to see this material to being able to search everything from my computer. There were some things outside that collection I still had to track down. But, I didn't have to travel, and it was available to me anywhere I went. I wouldn't have finished the book on time for my tenure had I not had access to this online."

The use of primary sources remains at the heart of the historical research method. All interviewees had done extensive work with archival collections – using physical and digitized collections - for a current or recent project. Archivists emerged as critically important research support professionals, whose collaboration can be invaluable to a project. The use of digitized finding aids, digitized collections, and digital cameras have altered the way that historians interact with primary sources. While the centrality of archives to the research process remains, the nature of interactions with archival materials has changed dramatically over time; for many researchers, activities in the archives have become more photographic and less analytical. There may be great advantages to conducting analysis at greater leisure outside a trip to the archives, but there appear also to be at least some important challenges to the researcher in redirecting a project mid-course and to the archivist in providing support when analytical work is displaced from the archives.

Working in the Archives

Despite the wide availability and use of digitized primary sources, research trips to archives remain an important part of nearly every history research project. All but a handful of interviewees had recently conducted a research trip, or were planning one. For faculty members, trips were generally not extended over a time span of more than a month, though some had spent summer months, fellowships, or sabbatical time conducting research over longer periods of time. Most, however, scheduled research trips during semester breaks and summer months, and they often struggle to find time for these trips. If domestic, a researcher might plan a series of trips to different archives, for various amounts of time, returning home after each. Or, for either domestic or international research, an historian might take up temporary residence near an archive for extended use.

The ability to carve out time for research trips was a primary challenge for most interviewees. Interviewees repeatedly emphasized that the amount of time they are able to spend in the archives shapes the nature of the interaction with the sources significantly. The consequence of shorter research trips is that researchers spend the majority of their time in the archives informally digitizing materials for later review and analysis. In some cases, the availability of existing digital resources – digitized collections, online finding aids, and digital secondary sources – allowed them to stay engaged with their research throughout the semesters and between research trips. The availability of these materials is a significant change, and a clear improvement, for most historians' research processes.

Historians approach research trips in a variety of ways. Some plan focused research trips, with prepared itinerary and a list of collections they knew they are looking for. Others take a more adventurous, exploratory approach; they start with one key collection of interest, and travel with the intention to solicit advice from local experts while in the area. Depending on the topic and the location of the archives, particularly with international archives, it may not be possible to thoroughly plan a research trip. Some historians are required do more excavating than others due to the nature and degree of maintenance a collection has received over time. In some cases, interviewees reported working with collections that would be nearly incomprehensible to non-experts.

Historians sometimes plan a sequence of archival visits within the research and writing process, with different trips serving different purposes. Historians might go on a "scouting mission" early on in a project, and visit an archive of known interest to explore the holdings to make judgments about how much time will be needed for subsequent visits. The use of online finding aids greatly facilitates, and sometimes displaces, these visits. If a "good" finding aid is readily available online, this might make a scouting visit unnecessary, depending on the importance of the archive to the research project. In some cases, researchers were able to rule out a visit to an archive based on the online finding aids, and re-purpose funds and effort to tracking down other sources for the project. During the in-depth research visits, an historian will engage deeply and comprehensively with an archive, attempting to identify and capture all of the relevant material for the project. Depending on the state of the archive, and the extent to which it has been organized and indexed, this may be a relatively easy or labor-intensive process. This may require multiple visits over a period of time, potentially years. During these visits researchers will work through collections methodologically. Initially, there is a process of identifying what sources are relevant. This vetting process involves finding aids, consultation with archivists, combing through a collection or parts of a collection to gauge its relevance to the topic. Towards the

end of a project, an historian might conduct a wrap-up visit. These trips are generally used to identify sources that are known, but not yet gathered, follow-up on earlier leads, or to confirm citations and quotations before submitting for publication. Of course, research is a highly iterative process, different for each researcher and project, and highly dependent on the need for travel and funding available for research travel.

E-Archives

The digitization of primary sources and finding aids has shifted many aspects of the archival research process for historians. Relatively few interviewees worked only with tangible primary sources. For some, working only with tangible versions of primary source materials was a preference and a habit. Others, especially those working in international archives, felt that they had little choice but to use tangible versions, since their source materials are not available digitally. On the opposite end of the spectrum, two interviewees had been able to complete all of their research for a project - even a book project - using digitized primary sources, and avoiding travel. Another historian reported having completed a recent book project using a combination online resources and research assistants who visited archives in another country on the researcher's behalf. The historian and the research assistants communicated regularly via email, and utilized digital cameras to capture archival content and sharing the images.

Finding Aids

Online finding aids clearly offer scholars enormous benefits. As mentioned, the use of finding aids before visiting an archive can help a scholar prepare more thoroughly for the visit, and use his/her time most effectively while there, especially given limited travel time. Most notably, finding aids were used in the prioritization of research trips, and allowed researchers to determine the contents of an archive before making a trip. Most interviewees said they are not traveling less for research because of digitized finding aids and collections, but they have been able to travel more strategically. High-quality finding aids may grow in importance as researchers continue to see their visits to the archive as increasingly photographic and less serendipitous in character.

Generally, historians discover finding aids through Google searches and archive websites. The general consensus among interviewees was that more online finding aids would greatly benefit their research, and that archives should continue to make efforts to make these accessible online. Continued and expanded efforts to develop finding aids more efficiently and to make them available digitally would seem to support the needs of historians for improved access.³

Research Support in the Archives

"You bump into an archivist who is interested in your topic and strike up conversation. [...] They have an active interest in showing you more things than you were asking for."

³ See for example the CLIR initiative on Cataloging Hidden Special Collections and Archives (information available at <http://www.clir.org/hiddencollections/>). Some archives have launched efforts to develop finding aids more quickly but less exhaustively as a starting point to increase access.

The role of the archivist is critically important to historians' research processes. These research support professionals emerged as the primary collaborators and colleagues of the historians interviewed; they are often intimately involved in helping scholars achieve their research goals. Some interviewees discussed directly the importance of cultivating a relationship with an archivist early in a research project, in order to facilitate access and support when visiting an archive, or in requesting digital copies of materials. Because these archivists are typically deeply knowledgeable of the content of their collections, and have their own networks of research support professionals, they are well-positioned to connect history scholars to additional resources. As noted above, many interviewees rely on archivists to inform and direct their research practice, and they often see them as a primary supporter and teacher when it comes to working with primary sources.

From the interviews it was clear that archivists' deep knowledge of the collections they work with and understanding of related collections is of tremendous value to historians working with primary sources. Archivists are often able to hone and direct an inquiry, bringing to light items and collections that the researcher may have been unaware of. The archivist is seen as an expert and a partner in the discovery process, providing a gateway to access for collections that are often described as "hidden." The moments of discovery that scholars share with archivists were described by historians with delight and gratitude. The archivist is also critically important for scholars who cannot travel to an archive. Interviewees reported relying on them via sometimes extensive phone and email exchanges. Historians would engage sometimes at length about their research project, and the archivist would suggest materials, and prepare and distribute digital copies. This type of long distance relationship has been critically important for those who cannot travel, and provides access to collections that would otherwise be impossible.

Capturing Primary Sources

"They weren't open about this on the page – you can bring your scanner! I would have had no reservations to scan everything I looked at. I took really good notes, copied really good stuff. But I might want to see it again later. Without going back to the archive. Seems silly to do the work twice. Scanning lets you do that."

"I just took pictures. I haven't even gone through them yet. I just photographed everything in that box. [...] I only had a certain amount of time. There's not time to reflect too much."

"I would just go in and photograph like crazy. Then I would sort these out. I would go through a series of files and figure out what were the titles of the works I had just been looking at—and then I would just rename the files so I would have the titles. Then I have another system where this is hooked up to a larger bibliography, where these letters are tied into a form I can retrieve."

"I'm not using a digital camera. I've tried it and abandoned it. If I don't process it [photographs] then, annotate, decide what's important, it just goes into a big pile

that never gets figured out. You don't know what you've got at the end, and you have to essentially go through it all again. It becomes hard to process it later."

The widespread use of digital cameras and other scanning equipment to capture source materials is perhaps the single most significant shift in research practices among historians, and one with as-yet largely unrecognized implications for the work of historical research and its support.

Capturing source material in a way that facilitates continued access to the intellectual content over time is essential for historians. Researchers have had a variety of methods available to them for interacting with and capturing the content of archival materials, a process at the heart of the historic research method. Note-taking, microfilm, printed volumes of primary sources, photography and scanning are services that have long been available in most archives, depending on the material in question.

Transcription remains an important part of the research method for many historians, and they reported spending hours in an archive taking notes by hand or on computer. In some instances - though rarer by the day - transcription is the only option available to archival researchers for capturing the content of the sources. This may be done by hand, on paper, or using a laptop.

The most notable development in capturing primary sources materials is the now widespread use of digital cameras in the reading room to photograph sources. Many interviewees reported using digital cameras in the archives, and found them to be incredibly beneficial in terms of efficiency and convenience. Scholars were able to spend time in the reading room photographing the collections, and would often postpone viewing the images until they returned home from the trip. This was notable in that some historians reported that they no longer engage intellectually with the sources while in the archive; these trips have become more of a collection mission. Some felt that this convenience enabled them to conduct their research amidst the many demands of academic life, and were thrilled to be able to interact with their sources from their homes or offices, rather than having that activity relegated to a few days or weeks in an archive. This allowed them to engage with their research throughout the year in a completely different way than before. It was clear that the influx of digital cameras in reading rooms is changing the nature of the research visit for many historians.

It is important to note that the quality of digital images and the availability and use of high-resolution, large-format screens were key factors making possible these new approaches. Many archives have long offered reproduction or scanning services, sometimes at a fee, and the introduction of self-service high-quality imaging has in some cases reduced this source of income. In at least one case, an archive has elected to charge scholars for the right to take their own photographs, perhaps at least in part to retain this source of revenue. Interviewees consistently argued that more archives should allow and facilitate their ability to photograph the collections, in a variety of ways.⁴

Some historians hope that their own digitization work can contribute to more content being made available for both the public and other scholars. In one case, a scholar noted that he was scanning

⁴ While some might call into question the role of these existing services, at the same time their professional quality has been vital to imagery reproduced in monographs and journal articles, and they can at times serve as a source for the development of digitized special collections (in a way that individual digital cameras might not serve as well).

material from a small local archive that had never been scanned before. He intended to provide the archives with copies of everything he has scanned, so that future scholars might have improved access to the material. The value of such contributions, even with the potential development of protocols to guide their development, is not entirely clear.

While the use of digital cameras is a significant benefit for scholars busy with professional and personal commitments, their use also presents some challenges. The ability to organize and access photographs in a constructive way after a trip is a sticking point for many of those who worked with digital cameras. Because the digital images are typically JPEGs, there is no metadata inherently associated with the file that relates it to the content of the image. Scholars rely on complex file structures and good memories to access their files once home from the archive. One interviewee includes call slips in her photographs, which stated the name of the archive and the collection, so that she could always orient herself to the source. (ILLUSTRATION HERE.) Again, the displacement of the intellectual engagement with the material appears to have some downsides, given the lack of tools or software to facilitate the process of capturing and using digital photographs for scholars. Scholars also reported the challenge of integrating the images with their textual notes, which add another layer of format types to the mix. These digital photographs clearly add value to the research process, but working with them effectively and efficiently remains a struggle for most.

In one notable instance, a scholar was able to conduct research remotely, working with research assistants near the archive of interest. The research assistant would photograph the requested materials, and email the files to the researcher, who was then able to review them and request further files for photographing. The entirety of the primary source collection was reviewed in this manner, and the historian used this research for his monograph. It is not yet possible to predict if this type of development is the logical outcome of vastly improved finding aids and displaced analytical practices in time and space.

International Archives

"I take my laptop and my camera. I can take photos for free in France. But Italy charges me a lot to take my own photographs."

Many interviewees were traveling to archives outside of the United States, which presents a range of challenges from language barriers, to organizational and access differences. In some cases, historians are using well-maintained, well-catalogued collections at large institutions like the British Library or Bibliotheque Nationale de France. In others, historians are hunting down and weeding through local archives that may never have been formally processed or accessed by a researcher previously. For some historians, sorting through a relatively disorganized, unprocessed archive adds to the adventure of the research process. However, using an unprocessed collection does require different preparation and different approaches once at the archive. While most interviewees did not say that working with unprocessed materials was an insurmountable challenge, it was clear that further training would be beneficial for some researchers in ensuring their ability to work with all types of archives and sources in diverse locations and conditions.

Working with Non-Text Formats

“Video clips ruin everything. They’re so huge.”

“It’s just thinking through how the digital makes it possible to ask different questions. How it shapes what comes across. The extended mind. Artifacts enable you to extend what we know.”

A number of interviewees discussed the use of non-textual (mostly digitized) formats in their scholarship, and the challenges they are facing in working with them effectively. Primarily, historians were discussing the use of primary source material in non-text formats such as video, audio, websites and video games. These types of artifacts have long been used as a source of content in history. Overall, there was consensus that it is easier to locate, access, and work with digitized materials than ever before. In some cases, this availability has fundamentally changed the research process for scholars; one discussed how a mass digitization of government audio recordings and their availability in the public domain have shaped his career and his research. However, some barriers to working effectively with media sources still exist. In some cases merely capturing this content for viewing and analysis is a challenge. Some materials are available only in archives, and cannot be copied. In some cases, as with websites and video games, there may not be established ways to capture, present, and cite these materials within the academy. And, as these particular types of materials are not associated with an institution or archive, there is no support for working with them in a scholarly way. Even with advancements in access to digital video online and affordable storage options, working with video files can still present challenges to scholars who depend on media. Some scholars who have an interest in new media sources also expressed concern about these sources being taken “seriously” as artifacts, within the academy.

Discovery

“It’s overwhelming, knowing how much information is available to me now, and how much has been produced in the last 30 years. My reaction is that it’s intimidating to have this much information readily available.”

“The bottle neck used to be access to information. That’s not the case today.”

“I was also able to do very broad searches that would have taken years of actually digging through the newspapers to find obscure references to [my topic]. So that is where I think I first started to use digital sources as a genuine research tool, rather than as a teaching tool.”

“It’s nice when I can find a database [...] where I can enter in keywords and start coming across this material. But I am not all that comfortable with that kind of system—in that sense I am pretty old fashioned. I still like reading through, understanding that I might be limiting my search artificially with a narrow search term.”

“That is what needs to happen, this is very important. We do not have a centralized clearing house that can indicate to use what digital collections are out there. You have to use your intuition and go to certain kinds of institutions, and there are some publications but they are very erratic in what they have in them, and what they describe.”

Discovery is an essential part of history research. Identifying sources - both primary and secondary - on a variety of topics is part of scholar's daily work. The process of locating sources for history research is understandably different for primary and secondary resources. Few interviewees reported any challenges locating secondary sources, for which they make extensive use of search tools provided by their campus libraries, as well as the open web, although achieving comprehensiveness is often a concern. Locating primary sources presents a much more important challenge.

Finding Primary Sources

“Well, I go online and I search through the various databases and catalogs. For example for the records of the [archive], I'll search electronically through [their] database to find the records I know I'll want to look at, and then I'll go to the [archive]. That is a case where there are still paper catalogs that have more complete information and so I will look at the paper catalogs as well.”

Nearly all historians are engaged in a continuous search for primary source material relating to their research topic. The range of institutions that they work with to identify relevant resources is vast and varied. Historians know no bounds when it comes to finding primary sources, and they work with archives at academic institutions, independent archives, local, state, and national archives, depending on the topic at hand.

Researchers typically develop a deep knowledge of the primary source collections available to them on their particular topics. In some cases, the historian may be *the* expert in what sources are available, with intimate, comprehensive knowledge of the archival holdings at multiple institutions. These scholars are often seen as a resource for others in their field, and other historians will rely on their network of colleagues to assist with identifying relevant primary sources for their research. Sometimes, these networks are built through interactions among scholars at an archive. A handful of interviewees reported reaching out to well-known scholars in their field – perhaps someone they've read and respect – to ask advice on using an archive or locating sources. Typically, historians reported traveling to the archives they were working with, with a very small minority relying on local resources.⁵ None of the scholars included in these interviews were actively using the collections held at their local institutions. For the most part, scholars indicated that they had explored their campus special collections holdings upon arrival, took note of relevant and potentially interesting sources. However, they generally have to look much farther afield for primary sources, and the campus collections are not a primary resource.

⁵ Of course in some cases, historians were doing locally-oriented research. This might be due to naturally evolving interests, or may be an adjustment of scope of the research due to lack of funding for travel.

The “open” web is often the primary search tool for locating archival collections that are held by independent organizations or government offices. Learning the networks of organizations related to a topic is a central part of the discovery process, and the open web has become a ubiquitous, enabling tool for historians. Historians reported needing to be creative with their searching; they must consider many different search terms as well as organizations that might hold relevant records. Outside of collections held at universities or independent research organizations, finding aids or collection descriptions are rarely collected into searchable databases, and it is still necessary for historians to locate each collection independently. This lack of collocation and collection presents efficiency challenges and deepens scholars’ concerns about comprehensiveness. The anxiety over “missing something” was quite common across interviews, and historians often attributed this to the lack of comprehensive search tools for primary sources.

Finding Secondary Sources

Historians use secondary sources in a variety of contexts. Historians use secondary sources early in a research process, especially if they are exploring a new field and require orientation. They also keep up with the current research in the field with a variety of mechanisms involving journals, publisher catalogs, book exhibits, and other mechanisms. Some interviewees reported that not only reading, but also writing, book reviews, constitutes a valuable way for staying engaged with new publications in their field. For the most part, historians did not cite challenges with discovering or accessing secondary sources, with the only issues reported at institutions where journal subscriptions were somewhat limited.

The campus library is the primary resource for gaining access to secondary resources, but historians do not limit their searching to their own institution. When a book or article is not available in the local collection, interlibrary loan (ILL) will provide access. Historians consistently praised their library’s ILL services, and it was clear that these were integral in gaining access to secondary sources for research. In addition, when scholars cannot get access to a particular item, they often turn to their network of scholars, who may have access to a resource at their local institution and be able to share it with them. Where it can supplement the resources available to them from their home institution, historians will take advantage of any local libraries that may have relevant collections - including public libraries, independent organizations, or other higher education institutions, as noted above.

Keyword searching is a primary mechanism – indeed a ubiquitous practice – for discovering secondary sources in the context of a research project. Some interviewees expressed concerns about limitations of keyword searching, recognizing that the corpus of materials that are available to search in are not, in fact, comprehensive. However, these concerns do not deter researchers from using the tools. Many recognize that their search methods shape their work by defining the collections that they access. One historian noted that this is not necessarily different from previous practice, “pre-internet,” where a scholar would access a limited set of archives, and base the argument on the resources held in those collections.

Another important discovery mechanism is following citation trails. This is especially important when familiarizing oneself with a new area.

One researcher described a typical search strategy:

"I use [my campus] libraries. And, their Interlibrary Loan service. I also like to see snippets of something obscure on Google Books. Then I'll go to the [campus] library to get the book itself. If it isn't there then I'll go to ILL, or maybe WorldCat. Interlibrary Loan is pretty good. Sometimes I can't find something I know is there. I'll search through JSTOR, WorldCat, Archive Grid or Archive Finder."

This example, typical of many interviewees, indicates that historians actively engage a wide network of search tools and services to address their research questions. The campus library, Google, and other search services are part of the daily search routine. The "open web" is a valuable tool that brings special collections, commonly not found in a catalog or database, to light.

It was also clear that digitized secondary sources have been widely accepted among historians, and nearly all interviewees reported using such resources. While it is still the case that the majority of interviewees would seek a print copy of a relevant source, the use of digitized texts – books, book chapters and articles – was ubiquitous. Historians cited the benefits of their ability to preview "snippets" or sections of a book in order to determine relevance before getting the book. In some cases, historians were working with the digitized text, taking notes or copying out passages, just as they might with a print text.

Exploring New Topics

"For instance, maybe I have become interested in some topic or some figure, and I am trying to understand whether or not someone else has written about this person or issue. Usually, with some kind of keyword searching you can get a sense of whether or not it appears in some other book."

"[...] about something I am interested in that I do not know much about. I will go to Google Books and I will type in a couple of key terms, and see what else turns up. Often that will direct me to a couple of other titles, and that will direct me to some footnotes from somebody's book that is worth looking at."

Historians said it can be challenging to identify primary and secondary resources in new topical areas, particularly at the beginning of a new research project. After having developed deep, comprehensive knowledge in one, typically narrow, area for a dissertation or monograph, diving into a new, unfamiliar topic can feel daunting. Not only do researchers need to identify specific resources to address their questions and support an argument, but they also may need to familiarize themselves with a new sub-field of history or work from another discipline. Historians often need assistance orienting themselves to the resources available on a new topic, both primary and secondary. Again, many scholars rely on citations, general web searches, and subscription databases when exploring new topics. Few reported working with a librarian in these instances, and some rely instead on colleagues. In general, exploring new topics was reported as one of the most daunting aspects of the research process for historians.

Google

“Google is the first port of call.”

“[...] A lot of times I will try to just start with a Google search.”

“[Google Books is] also helpful at the very beginning of a project, when you are not quite sure what sources you are going to use. Or you want to do a massive scan using keywords. I never did that until recently. [...] I started just in Google Books, searching for that phrase or related phrase. This has been the most fun part about it; searching digitized books, the full-text for [the] phrase. It’s been so great for my research; there are so many ridiculous things out there.”

“Even some pretty obscure things have landed in there [Google Books], and it’s made things a lot easier. Because if they are in the 1900 period, they are public domain, and I can just download them and use them at my leisure. Or search them... now that is a big change! I can’t even imagine, I cannot even remember... Being able to do keyword searches, within PDFs of books is awesome. That’s what I would say, more of that please!”

There was extensive discussion with interviewees of Google discovery tools, including the general Google search, Google Books, and Google Scholar.⁶ While most historians recognize that Google has limited access to materials - it doesn’t *actually* search “everything” - it was generally seen as the most comprehensive discovery tool available for certain types of searches. Google discovery tools’ convenience, ease of use, and overwhelming scope of searchable material clearly outweigh the limitations of its search. Historians seem to be savvy users of Google. When discussing Google, one interviewee noted “Technology is not a substitute; it is a supplement.”

Interviewees use general Google searches to start the discovery process. For many of them, Google is the primary search tool in identifying archives that hold relevant materials, as information about archival collections is nearly always available on the open web. Google is recognized as a tool that has expanded the breadth of types of materials that an historian can access on a given topic, and introduce a researcher to collections that they were not aware of, even after years of working within a sub-field. Several interviewees noted that they had recently found sources that they would not have been able to identify without Google. One noted that Google has been particularly useful for accessing digitized local newspapers, which has become a “rich resource” for his scholarship.⁷

Interviewees widely acknowledged Google Books as a valuable tool for their work. Nearly all of them mentioned using it in some capacity, and were enthusiastic about the perceived convenience of the

⁶There was strikingly little discussion of Google Scholar. It was mentioned as a resource by a handful of interviewees, but there were no trends or notable significance placed on this tool in the interviews.

⁷ There was no discussion of the Google Newspaper Digitization Project, directly, in the interviews. “Google Ends Newspaper Digitization Project,” by Greg Landgraf, American Libraries Magazine, May 24, 2011. <http://americanlibrariesmagazine.org/news/05242011/google-ends-newspaper-digitization-project>

search tool. For some sub-fields, particularly those focused on historical periods that are pre-1923, Google Books can be a centrally important tool for accessing primary and secondary sources for research, and some interviewees reported using it extensively. Google Books is also valuable in orienting scholars to a new field by helping them identify sources and gain access to a network of citations. Many scholars mentioned that even the Previews in Google Books, for those that aren't available in full text, are valuable in helping them understand whether a source is worth pursuing. Some researchers also use Google Books (and one person, Amazon.com) to check citations when doing bibliography work.

The full-text search functions of Google Books are a huge advantage to historians. One interviewee spoke about her use of Google Books:

"Being able to search for a particular word that I'm interested in is so much more powerful than searching in a library catalog. It's not in any title. It's not in a subject term. Everything in my field is out of copyright and digitized. It's all there. I feel like I'm cheating half the time. Knowing who the current scholars writing about this are, past scholars, and primary sources of things that mention this world. It's made it so easily accessible."

Interviewees reported using Google Books to identify resources that they want to access in print, through their campus libraries. They will typically use Google Books to explore a topic, and then use their local library discovery system to locate a known item or request the item through ILL. Some scholars even mentioned using Google Books to search texts that they own in print copy.

The full-text search capabilities that Google Books presents historians appear to have had a profound effect on their research practice. Many interviewees shared their perspectives on the incredible value of being able to search through a digitized text, and compared that experience to using a print version (in many cases, they had used both the print and electronic versions of a single text during a research project).

"It is a trade-off. A trade-off between convenience on the one hand; or more importantly, that ability to search. And, it is that searchability that is so brilliant, compared to the tactile joy of holding the manuscript. On balance, I would much rather have accessibility and searchability."

A number of interviewees shared that they use Google Books during the writing and editing phases of a project to confirm quotes and citations. Historians working on international topics noted limitations of the corpus of foreign language material available on Google Books. Many continue to rely on subscription databases which provide access to collections of foreign-language materials in these cases.

Secondary Sources and Research Support from Libraries and Librarians

Interviewees were asked about the role of the academic library and the services that it provides in supporting their research. While the interviewees were enthusiastic about their campus libraries, it became clear that these libraries are not deeply embedded in the research processes for most historians. Of course, the interviewees are regular users of the print and online library collections.

Outside of the collections, Interlibrary Loan was the most commonly used formally defined service. Historians reported occasional interaction with reference staff in their research projects, especially as they examined new areas of interest, but an inability to rely on librarians for detailed help in a given sub-field. Historians also reported using a wide network of libraries in their local area, and were not solely engaged with the campus library; they make use of all local library collections that they can access, including public libraries and other university libraries. These interviews did not cover the support that the library may provide historians in their instructional roles or for their students in supporting academic coursework or critical thinking and information literacy skills more generally, services that are known to be important priorities for many academic libraries but about which no findings can be drawn from the research for this project.

Working with Librarians

"I talk to the librarians when I'm looking for something outside my comfort zone."

"She's very good at pointing out online resources that I haven't considered. But, doesn't have the subject knowledge of recent books in [my subfield]."

"The history librarian is a [specialist in a particular subfield]. I could have worked more closely with her, but I didn't feel like she would know about my subfield."

"I would say [I get] half [of the books I need for research via] ILL, and the other half I am purchasing for myself."

"[My institution] is very small; only 1,000 students. So, their library is very small. But, I live in [a nearby city]. That [has] a gigantic library, so I just treat that like my research library. That was one of the big attractions of the job, that it was still in that orbit. At this stage in my career, feeling secure that I have access to that tier of library material."

Some research support professionals are eager for collaborative relationships with faculty members, so this was one possible role explored in interviews. While it was clear that the historians interviewed held their campus libraries and research support professionals in high regard, the extent of their collaboration with them on research projects was rather limited. They usually knew their campus subject librarian by name, and generally felt that they had a positive relationship with this research support professional. However, when asked when or how they work together, nearly all interviewees cited teaching support, rather than research support. When asked how what the librarian's role was in a recent research project, some simply said "none."

At the same time, it is important to distinguish a collaborative role, which was not recognized, from a support role, which in some cases was valued. Some interviewees noted that they have worked with a librarian to identify resources in the library collection (often subscription databases) related to their current research project. One interviewee recalled seeking the assistance of a librarian in locating a

particular type of map; unfortunately, the librarian was unable to find the item, and the researcher then planned to go to an archivist for further support. A handful of historians also mentioned working with the librarian on search strategies, and two mentioned going to a GIS librarian for GIS support. One interviewee noted that the history subject librarian on her campus holds a PhD in the field, and therefore “knows us well intellectually.” For researchers in some sub-fields, and particularly area studies, there may be no subject specialist on campus with domain expertise who would be prepared to support researchers, from their perspective. Specific expertise is valued, but in some cases the perception has emerged that the librarian lacks needed subject expertise. In addition, some interviewees experienced frustrations with interactions with library staff or archivists, including lack of timely communication, difficulty communicating, and inability to provide assistance or referral.

This section of a transcript provides one illustration of a relatively engaged relationship between an historian and the campus library, according to interviewees.

Interviewer: “Does your campus library have a role in your research?”

Historian: “Yes, we have digital databases that I use. We have very good interlibrary loan facilities which are very important. [My institution] is also a member of the Center for Research Libraries. The CRL has an enormous range of stuff, much of which has been microfilmed. They are also digitizing it more and more. So as a member of the CRL you get access to their vast holdings, which cover virtually every country in the world and every time period—it’s amazing.

Interviewer: Have you worked with any of the librarians on campus?”

Historian: Oh yes. Because they are trained as librarians they can think of search terms, or ways of searching that I – I am not trained as a librarian, so I don’t. So yes, definitely the librarians are crucial in the whole research process—both at [my institution] and wherever I go.

Interviewer: At what point do you talk to the librarians?”

Historian: Dead ends.

Interviewer: At dead ends?”

Historian: Yes, I share my frustrations with them and ask them to help me get out of the cul-de-sac.

Interviewer: So if there is something that you cannot find, that’s when you go?”

Historian: Yes. I know that somehow, somewhere it is there, and I just need to be able to find it—that my searching isn’t being as efficient as it ought to be.

Interviewer: Do you ever talk to them about the overall process of research and writing?”

Historian: No, not really. The interaction tends to be the other way, they receive invitations to look at possible research databases and they will send those invitations out to us and ask if we think this is something we should pursue. Then if we pursue it we will have maybe a two or three

week window to use that collection and then at the end of that window the members of the faculty will recommend whether we should subscribe or not."

One interviewee claimed that campus library staff were ill-equipped to handle interdisciplinary research. As subject librarians in research libraries are typically most familiar with one subject area, such as "American history" or "Women's history," scholars who are engaging multiple fields and drawing on sources across topical areas often lack a single point-person for research support in the library. One scholar expressed his struggle with finding research support for interdisciplinary research:

"People whose books are all adjacent to each other in the stacks have a better relationship with librarians. Rather than my multi-disciplinary topic. [...] The way I frame my questions... there's no question that will be answered by a single collection."

If more PhD students and scholars take on interdisciplinary topics, there may be additional challenges to providing research support, in terms of content expertise, to such researchers.

Collections

It was clear from interviews that campus library collections were the most frequently used library service among historians. All interviewees cited their access to their library's collections for printed primary sources, secondary sources, and electronic resources. Interlibrary loan services were the second most frequently discussed and valued library service. Only a handful of interviewees mentioned requesting that the campus library purchase a title or subscribe to a journal or database to support their research. In general, if a library offered an on-campus delivery service for print collections, historians were using it. While they may disclose that they "miss" going to the stacks, convenience appeared to win out over the value of browsing, according to these interviewees.

Moreover, libraries' approaches to collection management did not evoke significant complaints. Historians interviewed expressed little to no concern about value lost in working with electronic secondary sources. Interviewees consistently stated that they use electronic secondary sources, that it was convenient and efficient to do so. There was only one mention (in thirty nine interviews) of frustration with portions of a physical collections being moved to offsite storage. Overall, it was clear that these historians have accepted and adapted to the evolution in collections, and are benefitting from electronic collections in the same ways that other disciplines report to.

A Network of Libraries

As mentioned in the previous interview transcript, historians reported using a network of libraries in addition to their campus library. Most will patronize any library that they have access to, including those of other colleges and universities in their local area, as well as public and independent libraries. Interviewees reported great awareness of the breadth and limitations of the collections at their local institutions, and an willingness to look beyond the campus to access the resources they need for research. In some cases, another library is simply more conveniently located, especially in instances where faculty commute to and from campus (sometimes between states). Among scholars, using a number of libraries, academic libraries are likely providing research support services to faculty from other institutions with all of their materials, not just the rare or unique materials. It was clear that

history researchers are not solely reliant on the campus library for access to collections or research support services.

One interviewee at a liberal arts college noted that he uses a nearby research library at another academic institution “all the time”; its proximity even influenced his decision to accept his current position. A number of interviewees from teaching focused institutions discussed the limitations of their local collections for research, and their dependence on other sources, including their network of peers, for access to research materials. Again, historians cast a wide net when searching for materials for their research.

Organizing Sources

“A huge problem has been organizing the material I’ve found. I’ve accumulated a huge amount of information.”

“Once it’s organized, it’s up to me to think about it and write. But I do resent the time that’s spent organizing and managing everything.”

“I realized that I was repeating myself. I had already taken notes on something, but it was in a notebook and I didn’t realize. I need everything to be in one central place.”

“[...] It’s just the sheer amount of information one tries to deal with. It’s really too much.”

“I have taken so many photographs, and they are in order, and they are in order in my paper notes, but I have not had time to go back and actually code and organize all of them. I have started, I have these Excel spreadsheets where I try to fill in information—then I keyword tag in that.”

Researchers widely and consistently reported that managing analog and digital research notes and sources is a primary challenge for them. Collocating and accessing research notes, and relating them to the writing in an effective way, is an organizational challenge, especially for large book projects that can last multiple years and cover hundreds, if not thousands, of resources. And yet, this is perhaps the most tangible component of the analytical work conducted by historians.

Research Notes and Their Management

No one approach emerged to organizing research notes, physically or digitally, and it was clear that this is another part of the highly personalized research process for historians. Early on in a project, interviewees reported using a number of different, mostly folder-based, approaches to organizing content, where topic or author were the dominant criteria.

Most interviewees, when working on monograph projects, organized their material according to chapter. The idea of the chapter, and the argument that it contains, provided structure for many scholars who were organizing their information. One even stated “It’s not like I can go to my notes from [my last] book, and put them together in a different order and write a different book. They were created with a goal in mind.” This strong tie to the structure of the book exerted a lot of influence on the act of organizing sources and notes. In numerous cases, interviewees demonstrated their organization processes by showing the physical and digital “piles” of sources that made up a chapter. Many scholars had stacks of paper notes and sources organized by chapter. In one case, an interviewee shared the bookshelf on which he kept his last book, with each chapter’s sources sorted neatly into piles and labeled.

These processes and organizational structures were also evident in the digital work flows and file structures that interviewees have put in place. Historians want the digital environment to enable their physical and intellectual processes of sorting through materials, understanding their content, relating it to their narrative, and shaping it accordingly. (ADD IMAGE HERE.) The chapter number or name was in some cases used as a “tag” in note taking to indicate the concept or section to which a particular source would relate.

But it is clear that digital systems do not address the needs of even those scholars who seek to use them. One scholar’s process for collecting and organizing source material incorporates a database to capture passages and collect notes. From the database he then prints each note or quote onto an index card, and the words are then organized into chapters. He manually reviews the stack of note cards for a section of a chapter, arranges them into a narrative, and writes from this tangible tool.

Historians reported a myriad of approaches, processes, and tools for addressing the challenge of research notes management. This process was highly personalized, as was the case for most of the research process for historians. One interview excerpt illustrates how a scholar approaches research notes management:

“If I come across a book, and I don’t need it right now, but someday I might, I put it in the Bookends database⁸. I have about 1,300 sources. It’s not good for primary sources. It’s hard to explain. The citations are so inconsistent. It’s haphazard. Filling in all the fields; it shows up funny. I keep them in an Excel spreadsheet for the primary sources. I started using Excel, and each document would get a number, and I’d save it that way. So if my Spotlight [Mac operating system] search, the title wasn’t coming up, I could search for the number.

I don’t know why I file things in folders anymore, because I just search for everything. I just started naming documents with Spotlight in mind a couple of months ago. I have longer file names now, so it’ll come up right away. If it’s a piece of writing, I’ll put lots of keywords in the title of the file, and I can always find these files.”

⁸ Bookends software <http://www.sonnysoftware.com/>

Another reported advantage of the comprehensive operating system search functions was the ability to not only search across documents, but within documents. So, in cases where the scholar was adding metadata – such as key words – to a document, Spotlight would be able to find them. This was clearly a powerful tool for those who were using the search functions in this way, and eliminated some of the challenges of organizing and accessing documents from multiple stages of research. While some interviewees reported using a database to organize and access their research materials, the operating system's file search functions seemed to supersede this practice. Searches within Microsoft Word documents also allow scholars to identify content by keywords. Scholars are now amassing incredible personal libraries of digitized material, alongside the content they are producing as part of the research process (notes or writings).

Note taking took many forms for interviewees. Some continue to take notes by hand, some in Word or Excel documents, and a few reported taking notes in a database or other software tool. Some archival reading rooms do not permit the use of computers, and thus scholars who may prefer to adopt a system for note-taking must continue to take notes by hand. Some scholars who have worked in the field for a number of years said they feel a bit “behind” in their approaches to note taking and research notes management, preferring to stick with time-tested approaches. Newer scholars who take notes by hand referred to themselves as “old fashioned”; however, taking notes on paper is a prevalent practice across generations and sub-fields. Nearly all of the interviewees had some combination of paper and digital notes and often lengthy processes for re-writing and organizing these notes. Often, this is a tactile, physical experience. Some interviewees demonstrated how they like to rearrange information, sort it, and organize it into the conceptual tracks that will become the book project or dissertation. For some, the visual and physical elements of doing this with paper, rather than digital, remained important.⁹ However, there are emerging approaches for doing this digitally with tools like Scrivener, which allows scholars to work with text and image sources in a flexible, visual way. More research on how these types of tools might be applied to the historical research process is needed.

As some of these approaches to research notes management emerged in interviews, it was clear that although most struggle with this process, it is not addressed in a formal (or informal) way in the education of historians. Again, historians are expected to develop a personal approach to this process. In most cases, they will rely on their peers – from their dissertation cohort – for tips and tricks on how to get organized and work productively with their sources. In some cases, interviewees mentioned observing how their advisors had approached organizing and writing up and how that shaped their own work, even, in some cases, many years after they had been students. While some interviewees noted that they have picked up tips from colleagues, often in their department, there was also discussion about the lack of awareness of the research process in discussions between colleagues. Some recognized that they “have no idea” what another professor might do to organize sources and notes, despite the fact that this may also present a significant challenge for them personally. Strengthening the

⁹ It is important to note that one interviewee expressly stated that she prefers to work with all materials in digital form, and will digitize paper sources and notes. This was partially informed by her travel schedule – both personal and for research trips. Due to the frequent travel, and distance from her physical school and home, digital materials were best for her to work with.

network among scholars, and providing opportunities and forums for scholars to discuss their personal approaches, could be of great benefit to the community.

Several PhD students explained exactly what they would like to see in a comprehensive tool:

"I think one thing that would be really helpful [is to] have something that would be a comprehensive – maybe software – that could keep all of these disparate notes that I have. Field notes, archival photos, and organize that in some fashion, and keep it all in one place. A systematic research tools for people who are doing multiple types of research. I've organized it as best I can at the moment. But it's still a lot of searching in a lot of places. And, I'm using a few methodologies. It can be really confusing; trying to organize all of this information and pull it all together."

"I think it would collate the different kinds of materials in a way that I could access them. Like fourteen different screens, each of which contains a subject [topic area]. I could go to one screen to find everything I've collected on that topic, and it would have the citations for where I'd collected each one. The organization of materials. In one place."

Citation Management

"I should learn how to do this. It's lazy, really. Maybe later. It's a waste of time to re-write these references over and over. It would be nice if it would just appear automatically."

"I have tried but that takes too much time. It takes too much time. I will put time into setting that up and getting that going -- but all I'll ever do with it is work on getting it set up and getting items into it. Not once ever using that either to locate anything."

"Quite frankly when I am referring to archival sources, there is really not a stop form for that—at least not in Turabian. There is such a wide range of style expectations in journals and other kinds of publishers that I might as well not worry about coming up with a standard way to refer to that."

"I'm afraid it'll take more time for me to figure that out, so it's not worth it."

Citation management, the work to track the sources that comprise one's bibliography, is a laborious but vital process for historians, one that ensures integrity of the research output. Citation management practices varied dramatically for interviewees, and are often dependent on the scope of the project. Given that citations refer to the same materials as the research notes discussed in the previous section, it is important to underscore that citation management quite frequently comprises an entirely distinct process from research notes management. For dissertations and monographs, citation management was a significant aspect of the work, and required a more systematic approach. For smaller projects,

historians report that citation management does not warrant significant time and energy. Many researchers choose to manage citations “by hand” because of the complex nature of their primary sources, which are not sufficiently well-addressed by many of the available citation management tools. Overall, there was very low adoption and application of citation management software among interviewees, which was reinforced by the questionnaire responses. (See Appendix D.)

Operating in both the digital and physical worlds complicated the citation management process for many interviewees, just as it does the research notes management process. Historians are aware of newer tools, such as Zotero, but many of them reported frustration with these systems. Nearly all interviewees reported that they have not been able to work as effectively with a citation management tool as they had hoped. According to interviewees, these tools require more time and effort than managing citations “by hand” for a given project. In the end, it was clear that historians prefer, as with many aspects of the research process, to handle citations in a way that they have developed personally, have likely been using for a number of years, and does not require the adaptation of a new system or approach. Consistently, the barriers to learning a new system, despite the understood benefits, were time to dedicate to learning the tool as well as the effort of importing any current citations, and the perceived limits on the flexibility of the systems to work effectively with primary source materials, unpublished materials, foreign languages, and non-text or media sources.

Most historians who have taken up new citation management tools seem not to be aware the full capabilities of these tools. Of course, there was a small handful of interviewees who have adopted new tools, mainly Zotero, and are enthusiastic about the role these play in their research. (Several of these interviewees were using Zotero for research notes management as well as citation management.) Several historians who work mainly with published source materials – monographs and articles – viewed Zotero as a very useful tool and had adopted it. Although only one interviewee was using such a tool for primary sources, he was not only curating his own bibliographies of primary sources he had gathered in various small archives, but was intent on sharing these bibliographies freely online in hopes of encouraging greater usage of these materials.

The ambivalence towards citation management tools was also reinforced in some conversations about students and teaching. It was clear that for some historians, teaching citation management approaches is not an active part of their curriculum. The expectation seemed to be that students would learn how to manage citations on their own, in their own way.

“Do you use a citation management software?”

“I haven’t, but some of the students have. They like it.”

“Do you know what they use?”

“No clue. As long as the end product is acceptable that is all that I care about.”

“Do your students learn citation management software?”

“I don’t know if they learn it. I don’t think they learn it. There is no formal place where they learn it.”

“Do you think they use it?”

“Some probably do, but most I would say do not.”

Again, this was another assertion of the perception of the highly personal nature of the research process for historians.

Some of the newer tools have expanded functionality, combining citation management and bibliography creation with certain research notes management capabilities. In theory, these tools should address many of the reported unmet needs of historians. Some of the needs that may not be as fully addressed as they could be include the ability to work flexibly with certain kinds of archival and other primary source materials; and the challenge of organizing materials, including both research notes and primary sources, in the analytical work to outline, organize and develop a manuscript. Still, lack of awareness of newer functionalities is clearly one of the key barriers to adoption among historians, raising important questions about how best to ensure that historians have an efficient, effective way to identify and learn to use new tools that support their research practices.

Digital Research Methods, Collaboration, and Communication

“Increasingly, I am interested in how this profession interacts outside the confines of the academy.”

“I think there are some of my colleagues who couldn’t care less. And, indeed, find this [digital scholarship] to be a colossal waste of time.”

Historians’ engagement with digital scholarship comes in many forms. Some interviewees were engaged in using digital research practices and sources, which were discussed above, or communication tools, publishing strategies, or pedagogies. This section examines digitally-driven research methods, as well as the collaboration and communications dynamics that are seen by many to enable, or to inhibit, the use of these new methods.

Many scholars who are using digital methods are self-taught to a great extent, and rely on a network of collaborators to provide methodological expertise or guidance. In general, the digital scholarship a researcher produces is most typically one aspect of the broader research project, and scholars continue to produce a monograph about the research project. One interesting trend that emerged was that many scholars who are engaged in digital scholarship consider themselves to be public historians. Finally, researchers who engage with digital research methods or apply digital tools in teaching will likely continue to engage with traditional sources such as those available through archives.

Notwithstanding the excitement of the historians using digital methods, they constituted a distinct minority of the sample. The sampling strategy attempted to bring together a representative body of those conducting historical research, but it was not random, so no attempt is made to estimate the overall breadth or magnitude of uptake of digital methods among historians. Still, based on the sample of historians that comprise this project, it seems that the transformation of research methods is not the most significant or widespread development that new technologies have wrought on the field of history.

New Methods

“My interest in assembling these resources is in the interest for others doing the same research. We’re past the point where we need to reinvent the wheel. No one needs to geo-rectify the same map [...] twice.”

“It’s not about the visualization. The dissertation itself wouldn’t be a meditation on visualization and public history. It [the visualization] would be a tool I’d use to answer a question that might arise out of the research.”

One vital question for this project is the type and distribution of new research methods that are emerging in the field of history. GIS and text mining have emerged as the two most prevalent technological methodologies. In most cases, historians working with GIS had partnered with experts on campus, often in the library or IT department, or sometimes with experts from another institution (for larger projects). Locating GIS data on which to base maps for analysis can sometimes be challenging. In addition to using GIS in their research, some historians incorporate GIS technologies in their courses as

well. The library could be seen as a partner in this work, and also as a source of content, as scholars search for maps to scan and geo-code in order to work with them in GIS.

Two scholars described their work with GIS, and the support they received at their institutions:

"It happened in fits and bursts. I got a grant, and hired someone from IT. The first question was—where will be put it [the GIS project]? I didn't want to put it on my webpage. So I contacted the library and we developed [its] role in supporting this type of work. I'm trying to work with them to establish a single campus or state-wide repository that would host and maintain GIS data and metadata and make it accessible in one central place. Their [the library] commitment is to the data maintenance and sustainability of the project. They'll make sure it meets federal standards for GIS metadata, the layers are updated, the software is updated."

"[...] Now how do I analyze this? I wanted it [the map] to move over time. I got support from GIS center [...]. They gave me a book, and a computer. Good luck! Naiveté is a great thing. I learned some techniques. It took a while, and I spent a summer doing this, and being frustrated. I got something crude and I couldn't animate it over time. This is very important for history. Then I started working at the Center for Digital History. I got a grant, which was enough to build what's on the website. A flash-based animation, which allows you to browse over time and space. It took a long time. But, it became really useful for my research. The movement revealed patterns to me."

While the scholars engaged in GIS work agreed that this type of analysis allowed them to ask new questions in new ways and revealed new perspectives on their topics, one scholar noted particularly how time-intensive the project was. He went so far as to say he might not conduct GIS-based analysis again, and felt that his book would be finished much more quickly without the digital work.

In some cases, interviewees were planning to make their GIS databases available publicly, presenting their work as a new tool, although through what infrastructure or organization over time was not always clear. One scholar noted, "I'm working with a colleague in [...] to set up a GIS database. Once the project is finished all the data will be put online for public access. The public will be able to see images and take them apart, online." GIS work has also inspired some historians to look to other disciplines for data to inform their analysis. Some digital historians are incorporating census data into their GIS projects. This type of work can rarely be undertaken by a lone history scholar, and requires new ways of working collaboratively. The historians interviewed for this project mostly felt that the GIS work was one aspect of their research, and would fit into their broader narrative and a monograph. These projects were generally not intended to replace monographs, articles, or other traditional historical works. GIS does, however, add a valuable layer of interpretation to the work.

Text mining – searching across a large corpus of text or using tools like Google Ngram¹⁰ – is a significant new methodology in historical research, but it does not appear to be widespread. Applications for the method remain unclear for many historians, and there were some concerns about the quality and scope

¹⁰Google Books Ngram Viewer <http://books.google.com/ngrams/>

of the corpus of full-text works available for analysis. Outside of one scholar who was deeply and significantly engaged in this work, it was viewed more as an interesting novelty, rather than an immediately applicable methodology.

Some discussed visualization tools enthusiastically, an area where there was much interest from some interviewees, however, little activity. Overall, the interviews were not able to articulate exactly what types of visualizations they would benefit from utilizing, nor of what types of content they were interested in visualizing. In some cases, interviewees indicated that visualizing spaces, perhaps beyond the ability of some GIS programs, would be beneficial to their research and allow deeper analysis and understanding of their topic. When discussing place-based historical work, one interviewee discussed his desire to create an enhanced “cultural geography of urban spaces,” in order to “visualize those kinds of realities.”

History scholars reported a combination of self-directed learning and seeking support from colleagues and campus departments in adopting new methods such as GIS and text mining. In some cases, the campus library or digital humanities center staff GIS experts who are available to work with faculty on any number of aspects of the process. One interviewee noted explicitly that he goes to Twitter and blogs to connect with the digital humanities community when he has a question about his work. Those working with these technologies and methods tended to either rely on campus experts to contribute expertise, or had been trained over time on their use. Many did not feel that it was necessary to become an expert in the method, and were happy to collaborate with others in order to apply these methods and answer their research questions.

Collaboration

Collaboration in digital scholarship can look quite different from typical historical scholarship. Rather than sharing work between scholars who may each have separate content expertise, collaborators on a digital scholarship project will often have separate skill sets to contribute to a project. The historian typically holds content expertise, while collaborators are likely to have expertise on the particular technology tool or method that is being applied to the research. In some cases, larger teams may collaborate together, with a variety of experts supporting work. One such digital scholarship project at University of Virginia included a history scholar, a GIS professional, a project manager, and library staff members who could contribute collections expertise. This type of team is able to take a comprehensive approach to digital scholarship work, ensuring that the work is accommodated and supported. Scholars working on digital projects didn’t cite collaboration as a challenge, per se, but did comment that it was a new way of working. In the History Project Interim Report, research support providers had noted that there was a significant learning curve for some historians when starting to work with colleagues on digital projects. It is likely that scholars themselves may not be aware of the best ways to approach this work, and how to take full advantage of the collaborations.

Audience, Outputs, and Credit

Historians are interested in reaching a variety of audiences, including scholarly and public alike. This section reviews some of the ways in which historians are working to shape their outputs in a variety of

ways to engage with the audiences that matter to them and some of the incentives that help to shape their choices in how to do so.

Scholarly Communication

“Writing in small chunks and being aware of the audience along the way is better.”

“I have a book. Maybe forty people have cracked the spine. But, the blog has tremendous readership.”

“Open and free. You can download it; we have a podcast; you can print it. We are giving it away.”

“Keep the dissertation off the blog, because that’s what people tell you to do.”

“I think of blog posts as the first stab at an article. Historians are paranoid about putting things out there.”

“It [a blog] is a low impact, non-threatening place to put ideas. Sometimes I get comments that are like “you’re wrong,” but I learn from those.”

“I use Twitter a lot. It’s my virtual DH department.”

A number of interviewees noted that they have engaged new formats, outside of articles and monographs, for communicating their scholarly work using technology. Blogging has emerged as a significant form for scholarly communication among some historians, and is seen as one mode of engagement with digital scholarship. PhD students and younger scholars reported more active use of blogs as part of their scholarly communication strategy. Interviewees who blog do not view this format as a substitute for other formal publications, but approached it as a supplement and enhancement to their scholarship. (One graduate student said that she would like to have blogging count towards the dissertation.) Some faculty mentioned that they are encouraging their students to blog about their scholarship, and to consider a wider audience than the professor or the class.

Blogging is seen by historians as a way to engage an extended audience (including non-academics), find a community, build writing skills, and develop ideas. While one PhD student noted that he had blogged his dissertation, others reported being advised not to do this in order to protect their intellectual property. There was a feeling from most interviewees that blogs (rather than journals or magazines published on a blog platform) didn’t “count” as scholarship in the history community. One PhD student blogged his thesis, among other things, and feels that this outlet has helped him connect with key scholars in his field.

In some cases, blogging has been used to expose experiments with methodology and engage the community in discussing and improving techniques. This seems to be a significant change from the typical “lone scholar” approach to historical research. One interviewee shared his experience in using a blog to document a project “testing” new digital methods. His intention was to share his “test” with a

community of interested scholars and get feedback throughout the project. He referred to the blog as a “lab” space. Similarly, another researcher blogged throughout the process of applying a new method and shared results along the way. This led him to a relationship with a scholar at another institution, who is building on his model and using it for her own research.

Other historians had many different reasons for choosing to blog. One interviewee uses her blog for promoting her current scholarship. As an openly available publishing platform, blogs are networked with and indexed by other online information resources that are now part of the scholarly environment. By publishing work on blogs, academic scholarship is no longer isolated from “the rest of the internet,” in the words of one researcher. Another historian noted that he had had experience contributing to an organized blog in previous years, but had not been able to prioritize that writing in light of other professional duties. This interviewee also mentioned that he felt that the blog posts needed to be “polished,” and were competing with other writing projects. Yet another interviewee discussed how he had developed a blog to share supplementary material (based on digital scholarship) that relates to a recent publication; his book’s publisher was even aware of the site.

In one example, an historian and colleagues in his department had started a monthly, online magazine. He and his colleague serve as editors and recruit authors to contribute articles. This initiative is supported, technologically, by an academic center on campus (although this is not through a formal service offering of the Center). This scholar noted that the Center has provided nearly all of the technology support, and he has been “shielded” from the necessity of learning that aspect of the digital work.

Online formats including blogs can help graduate students develop experience and gain exposure:

“I get these books hot off the presses and I am able to get the reviews up – graduate students do the reviews. It’s a line on their CV—and I have told them that they will get more readers for their online book review than for almost anything else than they will ever publish in an academic journal.”

Public History

“Public history is the bridge between the ivory tower and the public’s learning about history. It presents a great opportunity for the library and archives.”

“I am invested in reaching a variety of publics.”

“We have to do more of our work in public, where people can see it. Getting out from behind pay walls. Our conversations are behind pay walls.”

“There are too many documents for me to work on in my project... history was a monolithic, individual activity. You sat down and translated the documents. But now there’s so much out there and it’s only going to grow. Why not bring in more people?”

“What does interest me is making what we do relevant outside of this building. I think there is a genuine crisis on a host of levels, and it behooves us to think about ourselves as public scholars. Some people clearly do, some people have in the past, but if we are not attentive to that then we are in some professional trouble. [...] What we are able to do is connect a reading public with an academic expert—in a way that works for both of them. It is an opportunity for that academic expert to speak without footnotes, to speak without jargon, not to worry about petty-minded colleagues, and it is a way for the public to have access to someone who is really smart and who knows about this particular topic—To be better informed, therefore, about what is going on in the world.”

Many interviewees discussed the motivation and benefits of digital scholarship initiatives in terms of “engaging the public” and making history more accessible to the public. Public history has a long legacy, but it has been viewed in different lights by different departments. At this point, however, it is impossible to ignore the role of public history in the adoption of digital methods in the discipline. Public history, and at the very least a commitment to making historical scholarship accessible to a public audience (as opposed to a scholarly audience), came forth as a clear motivator for most interviewees who are engaged in digital scholarship. In some cases, where scholars are using public information as a source for their scholarship, including crowd sourcing or the use of publicly-generated sources, scholars feel a commitment to share the output of their work with public in an open, accessible way.

Interviewees who were engaged in making their research public or who identified as public historians held a range of perceptions about the acceptance of this work by their peers and colleagues at their institutions. In some cases, history departments support strong public history programs. In others, a scholar may be working more independently to achieve their goals of making their scholarship accessible to the public, without explicit support from the department. Some interviewees at public institutions saw their commitment to the public as a core value of their institution, and a motivator for their scholarship.

Promotion and Tenure

“‘Points’ dictate what types of material you produce. Books are worth more than peer reviewed articles, which are worth more than book reviews.”

“There’s a sense in history – blogging about stuff doesn’t really ‘count.’”

“They are not against it [digital scholarship]; they just do not have the resources to promote it on such a small scale.”

“First [problem is], peer review. There is no systematic way to accomplish this if someone is working with their library to put up something that’s flashy and smart. No one’s vetted it or has an opinion of it. There are lots of people whose

digital research are a blog with pictures on it. There's no line. No one's going to pretend that's a substitute for a book. And, there's no publisher for these projects."

Many choices that historians will make are driven by their understanding and prioritization of the audiences for their scholarship and the outputs appropriate for reaching them. During the course of this project a number of issues were raised in terms of the opportunities and constraints imposed by these dynamics. The promotion tenure process for history faculty is often raised as an area of concern in discussions about digital scholarship. Current tenure standards and requirements remain heavily focused on the monograph and articles published in peer review, scholarly journals, and the interviews suggested that this status quo is still in place. As expected, some history scholars are exploring new methods of digital scholarship and scholarly communication, and are struggling to understand how the academic world will evaluate and accept (or not accept) their scholarship.

Colleges and universities require widely differing balances of teaching and research in the promotion and tenure process. Many faculty have a tenure process that is focused on their teaching portfolio, rather than publications. One interviewee stated, "I usually know that scholarship is appreciated, but that it is not what comes first. Excellence in teaching is our first thing." (As this project is primarily about the research method, this report will focus on research in promotion and tenure.)

There was some evidence that faculty who have achieved tenure feel "safe" to explore new digital methods in ways that pre-tenure faculty do not. One interviewee noted, "I don't have to worry about whether it will result in a book or not. I have a form of job security that allows me to do something I feel is productive and not worry about my C.V. Our institution has been slow to figure out how they would assess this work." In contrast, some noted that as many departments are hiring new faculty, digital scholarship is an attractive addition to the C.V.

It was clear from interviews that pre-tenure history faculty at research-focused institutions are still required to produce a monograph in order to advance to the next stage of their careers. In most cases, the expectation is direct and explicit, and most faculty appreciate that clarity. One interviewee noted, "My department is very clear that I need a book. And probably a couple of articles in recognized peer review journals. I'm glad the expectations are so clear." New faculty are very aware of the requirements for tenure, which seem to be relatively stable. The monograph remains the centerpiece of the tenure process for these historians.

In most cases, digital scholarship work is seen as a part of or a supplement to the monograph. Following the framework that digital scholarship allows scholars to ask new types of questions and interact with the sources and data in new ways, it logically follows that the answers rendered from these new methods will be incorporated into the historical arguments that scholars are already making. It is common that a particular method will illuminate a new way of approaching an issue of time, place, or language, and that these results will be incorporated into the monograph. In these cases it is typical for the scholar to produce an online platform to share the tool, method, results, or data that were a part of the digital scholarship method, in addition to the book. However, it difficult to say whether historians are given "credit" for this work in promotion and tenure reviews.

In some cases, scholars are producing text output in formats that are neither the traditional monograph nor a scholarly article. These are typically blog posts, but could take other forms. Some scholars feel that their work might be better addressed in one of these non-traditional formats, like a website or a series of blog posts. One PhD student felt that the dissertation was not an ideal form for presenting his work, which is heavily informed by digital methods. In his case, “articles make more sense.” But, as dissertations are required and the format is established and standardized (unlike in some other fields where a series of articles may be composed into a dissertation), he is spending time adapting his work to the required format.

One interviewee shared his approach to digital scholarship with his students, advising them to maintain a balance between new methods and traditional scholarship. These efforts, as stated by the interviewee, were an effort to ensure that the student would be acceptable or marketable in the current academic environment in history. He felt it was a risk for students to concentrate their studies too heavily on new methodologies.

In some cases, historians are producing digital projects as the output of their scholarship, without a print text accompaniment. In these cases, questions of review, credit, tenure and promotion are aggravated. This study did not interview anyone directly who was pursuing a PhD, tenure, or promotion with a digital project in the stead of a traditional textual (monograph) output. Issues of new formats and open models of publishing beg the question of peer review. This study did not delve into the deep waters of this dilemma and debate.¹¹ Some history departments and scholarly associations are adopting standards for evaluating new scholarly methods and non-traditional outputs. This may serve to reduce professional barriers to exploring and applying new methods to historical research, and it was clear that there is a need and momentum building to do just this.

While it is impossible to generalize on this issue, there was an overall sense that the issue of earning “credit” for non-traditional forms of scholarship are a very real barrier to exploring and adopting new methods and outputs.

¹¹ Harley remains an excellent source on these topics.

Graduate Students

"One of my big issues with graduate education in general right now is that there's almost no training with methodology and what you actually do in the archive and why that matters. You don't always know how to ask someone for help. There are larger philosophical questions about what an archive is. I haven't gotten systematic training. I had done some archival work through previous education. I'd been to an archive and I kind of knew how to use one on a basic level. A lot of it is figuring it out as you go."

"I would be interested in attending a session about organizing information and writing [it] up."

"Learning to use archives and sources... I'm just learning myself."

During the course of this project, PhD students echoed many of the same concerns that faculty members described. Interviews with PhD candidates indicated that there is often little support for them in learning about new research methods or practices, either in their department or elsewhere at their institution, of which they are aware. While the subject matter treated by historians continues to diversify dramatically, new methodologies develop, and research practices change rapidly, it is clearly critically important that students have a grounding in the methods and practices of the field. The field universally expects that scholars produce a dissertation, and in most cases a subsequent monograph, effectively demonstrating a standard set of skills in the discipline. However, formal, implicit training of scholars in these skills may not be as prevalent as it could be. Given that graduate students are deeply engaged in their research, and are forming life-long research habits during their dissertation work, this area emerged in this project as a vital area for further attention.

PhDs often struggle to define the scope of the project and develop an efficient approach to managing numerous sources and notes. They also struggle with developing and refining their argument. Graduate students reported that they rely on fellow students, advisers, archivists, and colleagues in the field for advice. While interviewees varied in their approaches to the dissertation, about half were treating it very much as "the first book." Choosing a dissertation topic that is practical given funding constraints and refining an argument are key challenges for graduate students. One interviewee said "A lot of us [PhD students] have cool topics or ideas, but making it into something you can answer is more difficult than I'd realized." These challenges, very likely common throughout the academy, may indicate a need for more active guidance on these topics as students progress through their programs. As noted in other studies, skill sets range dramatically for incoming PhD students,¹² leading to a variety of support needs.

The amount of formal training on research methodologies varies widely depending on the adviser. Methodological training was often "thin" compared to expectations and needs even for working with traditional sources and methods, such as in archives. Some interviewees said their programs had

¹² Cite to 2CUL study.

included one or two organized visits to campus archives, where they met with archivists who illustrated how to work with an archive and interact with the materials. (There is even less support for working in poorly resourced or otherwise untraditional settings.) PhD candidate said that these training sessions are invaluable. Even when students have a methods class available to them, they do not always provide a good foundation for practice in working with source materials, though one interviewee mentioned a methods class that she had taken provided a solid foundation in theory. Several PhD students expressed a desire for a real “boot camp” on methods and practices at the appropriate point in their graduate education.

Relying on the support of professionals and colleagues in the archives is an important way for PhD students to learn how to work with sources. The necessity of traveling for research takes young scholars away from the assumed support system that would be found in an academic department, leaving them to rely on the archivists and other scholars in those settings. Interviewees sometimes noted having made connections with other scholars in their subfield at an archive and even observing and learning from how other scholars work through a collection, take notes, and write. They also indicated that discussing various approaches to working with sources with these scholars was an invaluable aspect of their training and work. This was one way that they built a network of scholars within their subfield, as many scholars are working on the same or related collections at one archive. Additionally, the archivist is an important instructor for history students and a guide for experienced researchers. As the primary research support professional in the archive, scholars noted the importance of building a good relationship with the archivist, and his/her role in guiding them as to how to approach a collection, identify relevant resources, and work with different types of materials.

Some PhD student interviewees said that they need more training in working with non-document based sources. They struggle technologically and methodologically to locate, capture, analyze, and report on a variety of source types including audio, video, oral histories, websites, and video games, as noted earlier. Some interviewees expressed direct frustration with the lack of training in using these primary source formats. In some cases, PhD students noted that their advisers were not familiar with the use of these materials, and were therefore not a source of support for this aspect of their dissertation process. Some PhD students benefit from working with multiple advisers from multiple departments, because this allows them to learn about other approaches to non-traditional sources.

A significant part of their time is spent exploring tools and approaches to facilitate effective, efficient, productive research and writing processes. Several interviewees mentioned having attended workshops on campus, often hosted by the library, to learn about research tools like Zotero. Graduate students view these workshops with varying degrees of satisfaction, and they often feel that they are not taking full advantage of these tools. Overall, PhD candidates are eager to identify new tools, for which they typically rely on their peer networks. Advisers and professors are typically not able to address questions about new technologies, as these are generally outside of their primary skill sets. There is an unstated expectation that students will find support for using technology elsewhere on campus, outside of the department.

PhD students use their campus library in ways that are not dissimilar from faculty members. They use both print and electronic collections heavily, mostly for secondary sources. Library space can be

important to PhD students, especially for those who are local to the campus and do not have additional office space. They may have occasional interactions with librarians and archivists about their research, though some of them reported dissatisfying experiences working with library staff. Among the interviewees, there were no good examples of strong relationships with the librarian. Historians reported that delays in response time to requests or emails are a major inconvenience for them. In general, the campus library is a critically important service provider; however, it is not seen as a core collaborator or partner in the research process.

PhD student engagement with digital research methods included using GIS and text analysis in their dissertations. One noted that she has interest in incorporating digital visualizations into her dissertation, saying “It [visualization] would be a tool I’d use to answer a question that might arise out of the research.”

Interviewees, particularly the current PhD students, noted the value of learning from their peers throughout the dissertation process. While in their PhD programs, historians build strong connections with their fellow students, and often cite this community as their primary support for discussing the “how to” of research. In many cases, interviewees noted that they had learned about a tool or an approach from a fellow student. PhD students and new faculty reported staying in touch with these networks and relying on them for support after graduation. Sometimes scholars in these communities also share sources (primary and secondary). Clearly, the experience of learning to work with primary sources – which is at the heart of the historical method – can be described as informal, at best. The consequences of this approach, both positive and negative, were apparent in further discussion of the research process. Historians feel a great deal of control over and comfort with their personalized approach to research. However, they also struggle with some aspects of the process. Starting a conversation about research practices within the community, and re-instating formal training on research methods, could provide significant support for the field.

Conclusions and Recommendations

This report has taken a snapshot of some of the many ways in which new technologies have affected historical scholarship. While the adoption of new research methods continues to grow, this project has documented an absolute explosion in new research practices and communications mechanisms. This report concludes that research support services should strive to provide adequate and increasing support for these new practices and communications mechanisms. Three key findings are summarized here, followed by a series of recommendations to specific audiences.

Gaining Intellectual Control

The majority of interviewees said that a central challenge of their research is “gaining intellectual control” over the content they have collected throughout their research process. From the interviews, it was clear that historians are interacting with a wide ecosystem of information, within which they are continuously collecting, interpreting, and attempting to organize and access for analysis. Nearly all historians face an ever-growing mass of paper and electronic resources, notes, writing and images. Organizing these materials in a consistent way so that they can be easily accessed throughout the research and writing process – typically over many years – is an enormous challenge. As noted earlier, the researchers observed historians creating and revising and struggling with their organization systems, many saying “I should be more organized...” during interviews. While organizing information has always been a challenge for historians, the ever-expanding landscape of resources available to historians in digital form has allowed them to collect and analyze more and more information during their research process, and thus it has increased the challenge of engaging with all of the material.

Discovery and Digitization

It was clear from interviews that finding and accessing secondary source material is straightforward for historians. Given Amazon, Google Books, the library catalog, and interlibrary loan services, historians can nearly always find what they need for their research. Anxiety about comprehensiveness is, however, growing. And primary sources present another challenge. The process of identifying archives - in some cases small, local archives or international archives - can present an amazing challenge to researchers. Another level of this challenge is determining what is in an archive before visiting it. Given limited travel budgets (with many historians funding research trips out-of-pocket) scholars need to go through a complex decision making process to target high-priority archives.

The digitization and consequent discovery of archival finding aids is incredibly valuable for historians, and greatly in demand. The value of online finding aids was clearly communicated by participants, and instances where archives do not provide online finding aids was a challenge for many interviewees. Not only was there a desire to have finding aids for all archival collections online, there was a desire to have these finding aids collocated for centralized searching.

The Library and The Archive

It was clear in the interviews that the majority of historians view the library in a collections-centric way, either immensely satisfied with collections, delivery services, and interlibrary loan, or craving improvements.

In addition, many historians highly valued some of the recent digitization and discovery efforts of libraries and archives. Google Books and more finding aids available online are just two of the technology-driven innovations that historians celebrated.

Still, there was also a noteworthy concern among historians about whether librarians, in particular, had sufficient command of the field to provide more focused support for their work. Regardless of the possibility of a service decline in this sense, there is clearly a need to marshal capacities among a variety of support providers in a way that more directly responds to the needs of historians for expertise in their individual sub-fields.

Recommendations

Fundamentally, historians require a variety of types of research support. Prior to the interviews with historians themselves, this project included interviews with a variety of research support professionals, including history librarians and digital humanities professionals. A variety of issues emerged from those interviews about the identity and responsibilities of the diverse individuals in research support roles for the field of history, all of which are quite germane in contemplating how best to serve the variety of needs that emerged from interviews with historians.

One of the key issues that emerged from the research support professionals was a basic uncertainty about the distinction between individuals who serve in a research support role as against those who see themselves collaborating with historians. Many of the basic needed services discussed in this section, focus on issues such as discovery and information organization and management, which are almost certainly best considered from a service perspective. Assistance with adoption of new research methods, however, is more typically provided through a variety of fairly bespoke collaborations. On the other hand, many of the anxieties facing historians have as much to do with learning how to adopt new practices and tools, incorporating technology, which have more to do with education and instruction than with collaboration. Partnerships between departments, collaborators, and service providers, are almost certainly needed, to ensure that these types of needs are accommodated.

In Ithaka S+R's recommendations, based on the research and analysis conducted for this project, we have broken these down by audience: archives, libraries digital humanities centers (and other campus support providers), providers of digital and digitized secondary sources, providers of citation and research notes management systems, and historians. While we recommend a variety of collaborations across some of these stakeholders, we hope that this organization will help the reader immediately identify actions that could be taken in his or her professional and organizational context.

Recommendations to Archives

Archives serve as unique destinations for historical research, and the best archives offer a combination of valuable content, tools, expertise, and programming.

1. Because archives are the primary provider of sources for historical research, and present the greatest challenges for researchers, efforts to improve access to descriptions of archival materials are vital. Online finding aids are critically important to today's researchers, and archives should consider these a priority service that they provide. Even if detailed findings aids cannot always be created due to resource constraints, expedited approaches to creating more basic discovery mechanisms may be a way to shed at least some light on otherwise hidden collections.
2. Archives should continue to make every effort to make collections as accessible as possible through digitization. There may be an opportunity for archives to partner with researchers who are digitizing some portion of the archives on their own, in order to collect this material and make it available for other researchers. With respect to smaller archives, there may be collaborative opportunities that would make such efforts more feasible.
3. Archives should work together to develop, support, and/or promote discovery tools that make archival finding aids more readily accessible and cross-searchable. Cataloging and discovery services that cross institutional boundaries are becoming increasingly important, and archives should determine whether and how these services can best accommodate their finding aids and support the needs of historians. Such tools would be particularly valuable if they could facilitate the creation and dissemination of online finding aids for small, local, and obscure archives and institutions.
4. Historians deeply value the expertise of the research archivist, and archives should ensure that they are devoting adequate resources to engaging actively as interpreters of the collection and important connectors within their subfield. Archivists can play a patron services role in working with historians, and libraries should allow them time and other resources needed to be readily available to researchers. Archives are uniquely positioned to facilitate connections within the community of researchers who use their materials, and should make efforts to support engagement between researchers.
5. Archives should adapt to and facilitate the use of digital cameras and scanners in their reading rooms. They can serve a very real need for history researchers who are beginning to use this technology by creating policies, providing adequate space for photography, and providing instruction on best practices for capturing and organizing images would.
6. Campus archives should explore additional opportunities to train PhD students at their institution in partnership with history departments. Such training should focus not only on the use of the campus archives, but on the diversity of archives that students may encounter worldwide, including those that are less well resourced.

Recommendation to Libraries

Libraries continue to provide a wealth of secondary sources to historians, and the digitization initiatives they have spearheaded have been tremendously valuable. In addition, libraries offer some of the principal campus-based support services for historians but may wish in some cases to consider their place in the broader network of service provision, both on-campus and remote.

1. Historians are prepared for the print to electronic transition in library collections, certainly for scholarly journals, and libraries should proceed (with all appropriate individualized sensitivity and consideration for long-term preservation) with whatever strategies they may be pursuing for evolving format preferences for their collections.
2. Even the greatest research libraries serve only a portion of the secondary source requirements for historical research, making collection sharing an especially vital service for historians. Libraries should continue to advance their borrowing partnerships and joint collection management plans. Some historians think about their library access in terms of regional (rather than institutional) collections, and many libraries may wish to do the same in order to serve their needs comprehensively.
3. Historians noted that library expertise does not always cover their sub-field or area of interdisciplinary focus, which is understandable given staffing constraints. Libraries have traditionally focused their collaborative efforts on their collections, and they may want to consider opportunities to make other types of services – such as staff expertise – more readily available to those at other institutions who can benefit from them. For historians, this would be beneficial if it were to allow institutions to develop deep specializations in discrete sub-fields of history.
4. Digitized monographs and other books were extremely important to historians for discovery and research purposes, as are non-textual sources (such as audio, video, oral histories, websites, and video games) and archival finding aids. Libraries should ensure that full text search of digitized books, archival finding aids, and non-textual sources are available to researchers as comprehensively as possible through their main discovery services.
5. Libraries should explore offering a “concierge” service to historians focusing around their need to discover, and broker access to, primary source materials. Historians describe the identification of primary and secondary resources in new topical areas, particularly at the beginning of a new research project, as a challenge, yielding significant anxiety over “missing something.” The campus library and/or centers of excellence devoted to individual subfields could design a variety of services that would mitigate these challenges.
6. Historians who had adopted digital methods relied on partners throughout the university for support, and that this support often makes digital scholarship possible. For scholars who are exploring these methods and incorporating them into their research, these partnerships are critical. Campuses can continue to facilitate this work by providing support and expertise at either the departmental or campus wide levels.

Recommendations to Providers of Digital and Digitized Secondary Sources

Amazon, Google Books, HathiTrust, and Internet Archive, are among the most significant sources of digitized book content, alongside a variety of publishers and platforms that are making scholarly monographs available online as well.

1. Historians working on international topics noted limitations of the corpus of foreign language material available on Google Books. Maximizing the inclusion of foreign language material in these services would offer additional value to a variety of researchers.
2. Among interviewees, the singular importance of Google's library of digitized books was quite striking. Community services such as HathiTrust and Internet Archive, not to mention publisher and platform services, may have different objectives. Nevertheless, they may find it useful to evaluate their role in support of the needs of historians in the context of Google's apparently unique importance for this population.
3. Scholars interested in utilizing digital corpora of texts for computational analysis are uncertain about the scope, provenance, and quality of the content that has been digitized. Providers should address these issues transparently to enable computational research to be conducted without methodological compromise.
4. Historians' needs for non-textual sources must be supported by making them both more readily available and more seamlessly discoverable.

Recommendation to Providers of Citation and Research Notes Management Systems

One of historians' key research challenges is the need to organize, gain intellectual control over, and sift through a diversity of sources. Citation management and research management functions are increasingly coming together in tools such as Zotero and Mendeley, and some historians are making extensive use of them.

1. Faculty members perceive key limitations in these systems' bibliography tools, especially in working with primary source materials, other unpublished materials, foreign languages, or non-text or media sources. Providers of these systems should bear the challenges of using these content types in mind when they establish future development priorities. Where they have existing features that would ease these challenges, they should focus on marketing those features more effectively to the history community.
2. Many of these tools now provide functionality far beyond citation management and bibliography creation. These tools can address some of the research notes management challenges that are pervasive in the field of history. Providers of these systems should bear in mind that while citation management is a core process common to all scholarly fields, research notes management has certain aspects that are highly discipline- or method-specific. They should create appropriate flexibility or customization to take disciplinary needs into account.

Recommendations to History Departments

History departments provide a variety of research support services, not least to PhD students through methods courses and other graduate training.

1. Several PhD students indicated that they would have benefitted from additional help in developing a dissertation topic, especially given the practical matter of resource constraints. It may be too much to suggest that topic development could include a formal budgeting process, but advisors and departments may want to provide additional guidance in considering resource availability.
2. PhD students reported significant uncertainty about their knowledge of research methodology. They were not uniformly well-versed in effective techniques for research notes management, outlining, use of the archives (especially in less well resourced settings), comprehensive discovery techniques, various types of collaboration, and other techniques necessary to research and write a dissertation and enter the profession. History departments should carefully examine how they expect PhD students to learn fundamental and innovative research practices – perhaps but not necessarily alongside new research methods – and make adjustments to maximize student success. There may be opportunities for partnerships between history departments and libraries and archives in support of these objectives.
3. Scholars and PhD students alike need significant training in new research methods. Some history departments teach methods courses to their PhD students, but these need to be better adapted to emerging research methods that involve visualizations, computational analysis, and other emerging approaches, in addition to teaching the fundamentals of the historical method and working with primary sources. The field may want to adopt the model of summertime national “boot camps” in research methods that have proven successful in other fields that are adopting new digital methods. Finally, given the disappointment that some scholars have reported with new methods, all methods training should afford significant attention to identifying the right research method, whether new or traditional, to suit a given research question.
4. At both the level of methods and practices, PhD students require more training and support in the use of non-textual materials, including audio, video, oral histories, websites, and video games, as well as collections that are poorly organized or cataloged. Whether through formal peer networks or departmental coursework, departments should ensure that their PhD students are being acclimated into the full range of sources they may encounter in their research. The CLIR Dissertation Fellows program may offer one model for consideration in this regard.
5. New forms of scholarly expression are offering emerging scholars earlier opportunities to develop their ideas and their voices. Departments should provide guidance to PhD students and faculty members regarding the role of new types of scholarly communication, including blogging.
6. As new approaches to research notes management emerged in interviews, it was clear that although most struggle with this process, it is not addressed in a formal (or informal) way in the education of historians. Strengthening the network between scholars, and providing opportunities and forums for scholars to discuss their personal approaches could be of great benefit to the community.

Recommendations to Scholarly Societies

While the American Historical Association is the principal field-wide scholarly society for history in the United States and may be the right venue for many of the considerations discussed here and elsewhere in the report, a variety of other scholarly associations may find that there are appropriate contributions for them to make in these areas as well.

1. It is important that the field engage in discussions about the role of digital scholarship in history, and support faculty members in exploring and adopting new methods. The history community can make a commitment to incorporating this work into the field by setting standards for its review in publication, tenure, and promotion. Scholars should be able to gauge what will “count” in the forms of scholarship they may wish to adopt.
2. As day-to-day research practices of historians continue to evolve, continued examination of their changes and the associated needs they produce will be necessary. Scholarly societies may want to establish mechanisms for tracking these changes over time, for formally identifying support needs of the field, and for engaging with a variety of partners to help ensure they are addressed, not least librarians and archivists at a professional rather than institutional level.

Recommendations to Funders

Many of the recommendations made elsewhere in this report may benefit from one kind of another of outside support, but several are identified here specifically because they may be impossible without such support.

1. The extensive need for professional development in new research practices and tools will require some amount of experimentation that might be spurred along by dedicated sources of funding. If a funder were to choose to support such needs, one set of considerations is whether such professional development is best situated internally within the history department (for example as a requirement of PhD education), in collaboration with another campus organization such as the academic library, or through a third party model such as a summer institute¹³ or THATcamp.
2. To bridge perceived gaps between historians and those who provide them with research support services will require a mix of formal programs and informal approaches. While the former may typically be easier to support, the latter may be facilitated by structures that ultimately rely on outside funding to develop.

¹³ One model that was called to our attention for consideration was the Newberry Library's Summer Institute in Quantitative History.

Appendix A: Interview Participants

Research Support Professionals

Marta Brunner, UCLA Library, Head of Collections Research and Instructional Services

Department at the Charles E. Young Research Library

Brian Croxall, Emory University Library, CLIR Fellow and Emerging Technologies Librarian

Julia Flanders, Brown University Library, Center for Digital Scholarship, Director for Women's Writers Project

Kathleen Fitzpatrick, Modern Language Association, Director for Scholarly Communications

Matt Gold, CUNY Graduate Center, Assistant Professor and Advisor to the Provost for Master's Programs and Digital Initiatives

Rebecca Kennison, Columbia University, Director for the Center for Digital Research and Scholarship

Ed Linenthal, Journal of American History, Editor

Joan Lippincott, CNI, Associate Executive Director

Ken Middleton, Middle Tennessee State University Library, Associate Professor and User Service Librarian

Tom Scheinfeldt, George Mason University, Managing Director for the Center for History and New Media

Lisa Spiro, NITLE, Director of NITLE Labs

Robert Townsend, American Historical Association, Deputy Director

Katherine Walter, University of Nebraska- Lincoln, Co-Director for Center for Digital Research in Humanities

Elizabeth Watts Pope, American Antiquarian Society, Head of Reader Services

Historians

Jeremy Antley, University of Kansas

Brian Bockelman, Ripon College

Steve Brier, CUNY Graduate Center

Joshua Brown, CUNY Graduate Center

Antoinette Burton, University of Illinois, Urbana Champagne

Claudia Calhoun, Yale University

David Cannadine, Princeton University

Brian Caton, Luther College

Lawrence Cebula, Eastern Washington University

Steven Conn, The Ohio State University

Simon Cordery, Monmouth College

Kevin Dawson, University of Nevada,
Las Vegas

Hasia Diner, New York University

S. Max Edelson, University of Virginia

Colin Gordon, University of Iowa

Shawn Graham, Carleton University

Timothy Graham, University of New
Mexico

Greg Grandin, New York University

Maggie Greene, University of California,
San Diego

John Haldon, Princeton University

Martha Hodes, New York University

Julia Irwin, University of South Florida

KC Johnson, Brooklyn College

Deborah Kanter, Albion College

David Ludden, New York University

Kate McDonald, University of California,
Santa Barbara

Sean McEnroe, Southern Oregon
University

Daniel McInerney, Utah State University

Sarah Melton, Emory University

April Merleaux, Florida International
University

Celia Naylor, Barnard College

Matthew O'Hara, University of
California, Santa Cruz

Jenna Phillips, Princeton University

Ben Schmidt, Princeton University

William Thomas, University of
Nebraska, Lincoln

Andrew Torget, University of North
Texas

Ed Triplett, University of Virginia

David Troyansky, Brooklyn College

Carl Wennerlind, Barnard College

Appendix B: Interview Protocol for Historians

Warm-up

- Thinking back to your PhD studies, can you describe your training as an historian for me?
- Tell me about your dissertation topic. What types of resources were you using for your dissertation?
- How has your approach to research changed since then?

Research

What research methodologies are currently in use and how are these expected to change? What support is available – locally or distributed – to help facilitate the research process?

- Tell me about a research project you're working on now.
 - How did you develop your topic?
 - How did you start finding materials for your project? (follow-up in Discovery)
- Research notes management
 - How do you keep track of the articles, images, resources you've gathered for your current project?
- Use of "new" technology
 - *Look for queues and follow-up.*
 - *Explore any known digital humanities methodologies.*
- Collaboration
 - Have you worked on any collaborative projects? Tell me about them.
- Challenges
 - What's going really well with your current project?
 - What obstacles have you experienced in working on this project?

Discovery

How do researchers obtain information, begin the process of discovery, and use network and local resources in the field?

- Tell me about your current research project.
 - Where did you start? Describe your research path to me.
 - Were all the resources you needed available to you on campus?
 - What do you do if something isn't readily available?
 - How do you know when you have everything you need?
- Last time you were looking for a book or article, what did you do?
- Last time you were exploring a new topic, for class prep or for a potential research project, what did you do?
- What *can't* you find with Google and your usual search strategies? What happens when you can't find something?
- Challenges

- What are the biggest barriers to finding the resources you need?

Library and Resources

- Use of archives
 - Are you doing archival research for your current project? Which ones? Tell me about how you're using the collections there.
 - How did you prepare for your visit?
 - How did you capture information while you were there?
 - How did you work with your research notes once you came back?
 - Have you used a digital camera while you're working in archives?
 - Do you wish any of these materials were available digitally? How would that impact your work?
- Use of digital collections
 - Are you using digitized collections – text, images, video – in your current project?
- Use of the campus library
 - How would you describe the library's role in your research?
 - What's the most valuable thing that the library helps you with?
 - Have you worked with a history librarian at your library for this project? From another library?
 - Have you used any technology services offered by the library? What technology support do you wish the library offered?
 - What do you wish was available to you on campus that isn't?
- Use of other libraries
 - What other libraries, archives, societies, or collections are you working with on your current project? Tell me about the last time you worked with them.
- What obstacles have you encountered in conducting research for your current project?

Digital Scholarship (if relevant)

- How have new technologies impacted your scholarship?
 - Seeding out new sources
 - Analyzing information
 - Organizing information
 - Sharing information
- Are you interested in exploring any new methods in your work?
- Is there anything you wish you had time or resource to learn?
- Have you worked with a digital humanities center, or equivalent, on any of your projects?
- What inspired you to try this new method/approach/technology?
- How did you go about building skills in this method?
- What impact has this method had on your scholarship?
- Would you describe yourself as a “digital historian?”
- What challenges have you experienced in incorporating this new method into your scholarship?

Future

- Looking forward, what challenges do you see for yourself as you continue to do research?
- Looking forward, what challenges do you see your field facing as methods continue to evolve?

Wrap-up

- Looking back at our conversation today about your scholarship, can you reflect again on how your approach to research has changed or is changing?
- If I gave you a magic wand that could fix something that isn't working for you, or create something for you to use in your research, what would you ask the magic wand to do?

Appendix C: Evidence

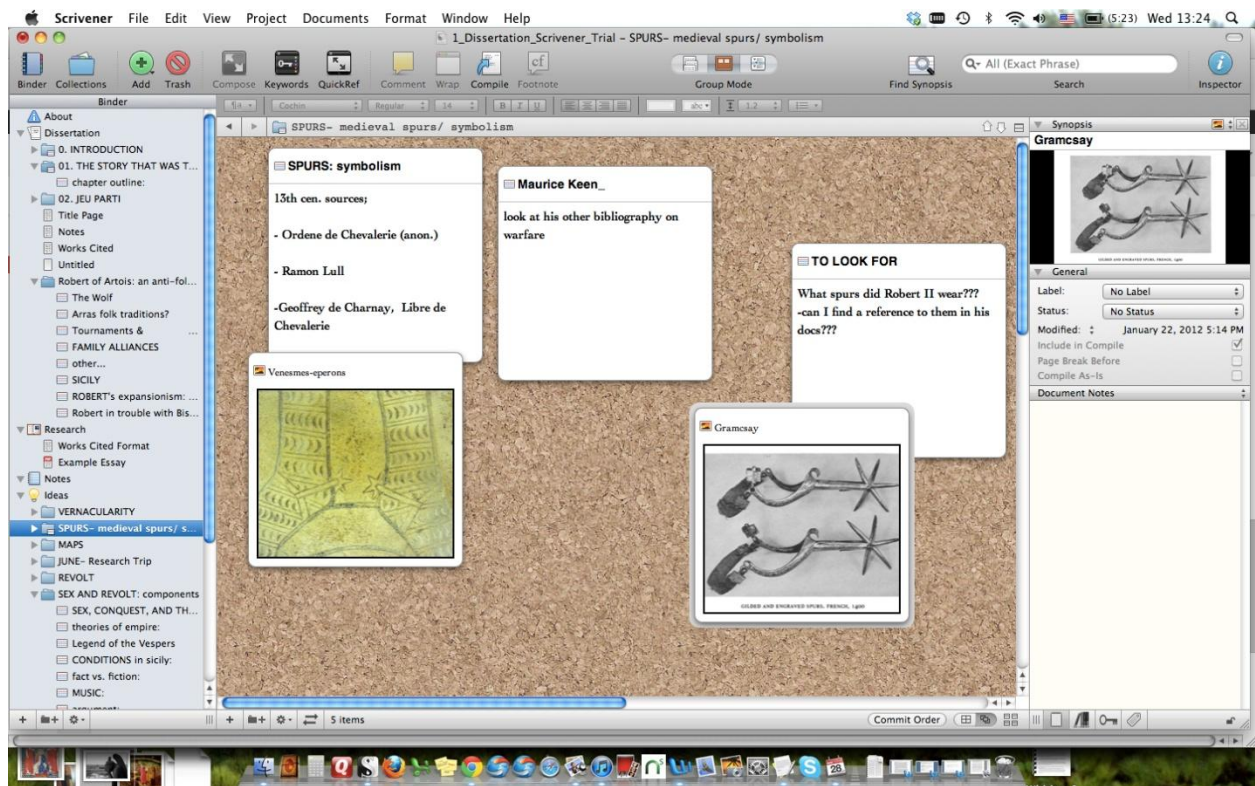
1. Notes and sources from a recent book project. Each “pile” of folders is one chapter.
2. Notes taken from a visit to the archives. Post-it note flags a note of interest, and labels it with a chapter number to which it relates.
3. Photograph of an unprocessed “archive” in a foreign country. The records found here were used in research.
4. A graduate student uses post-it notes to organize dissertation structure.
5. The same graduate student uses Scrivener to organize dissertation structure, notes, and draft sections of the dissertation.
6. An example of a digital photograph taken in a reading room. In this case, the scholar has used the “flag” from the collection to provide a type of visual metadata for future reference.



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